

Chapter 2 – Description of Alternatives

This chapter describes the range of options (alternatives) to restore, enhance and protect existing uplands, wetlands and riparian corridors within the Glacial Ridge project area. We will discuss how the alternatives were formulated, identify the preferred alternative, and explain why some alternatives were eliminated from further study.

I. Formulation of Alternatives

Each of the following alternatives was designed to benefit specific fish, wildlife and plant habitats within the study area. The boundaries were formulated based on the sub-watershed, restorable wetlands basins, the habitat requirements of desired wildlife



species, public roads and comments received from the public. The recommended protection levels (fee acquisition, conservation easement, landowner incentives etc.) were based on the Service's policy to acquire the least interest in land necessary to meet refuge goals.

The proposed refuge sits in the upper reaches of at least ten sub-watershed basins that flow into the Sandhill River and Red Lake River watersheds. Restoration activities will have positive impacts on the water quality and quantity now being received by downstream residents. Specifically, many of the wetlands proposed for

restoration were formally land-locked basins that did not historically contribute to either drainage system until the beach ridges were cut and the wetlands drained in a series of ditches.

The original proposal map displayed during the open house, in the newspapers and at other events outlined the former Tilden Farms property as the central area of focus. During development of Alternative C, the planning team decided to include additional lands for evaluation (Figure 2). The larger land area was delineated based on current land use, existing prairie remnants and the presence of restorable wetland basins that would be co-joined with the Conservancy properties. The team felt that the new alternative may better protect the sub-watersheds and facilitate the greatest opportunities for habitat restoration and water quality improvement.

The following goals are proposed for the Glacial Ridge National Wildlife Refuge:

- Strive to maintain diversity and increase abundance of waterfowl and other migratory bird species dependent on prairie wetland and grassland habitats.

- Conserve, manage, and restore the diversity and viability of native fish, wildlife and plant populations associated with tallgrass prairie and prairie wetlands.
- Work in partnership with others to restore or enhance native tallgrass prairie, prairie wetlands and unique plant communities.
- Restore, enhance, and protect water quality and quantity that approaches natural hydrologic functions.
- Provide for compatible wildlife-dependent uses by the public, emphasizing increased public understanding of the northern tallgrass prairie ecosystem and the mission of the National Wildlife Refuge System.

II. Alternatives Considered but Eliminated from Detailed Study

The following options were considered early in the planning process. The options were discussed by the planning team but were not considered to be viable alternatives.

A. Acquisition of only the Tilden Farms property. Purchase of only the former Tilden Farms parcels would significantly reduce the future possibility of creating a huge block of connected grasslands and wetlands across the northern and southern portions of the core area. Future large-scale management practices, including prescribed fire and wetland restorations, would be hampered without the ability to acquire the “inholdings” at sometime in the future from willing sellers. The boundary of such a refuge would also create significant challenges in management because of the meandering nature of the current property lines.

B. Extend the proposed refuge boundary to County 44 on the west and County 12 on the southeast. This 45,718 acre area would include more restorable prairie (west) and existing wetlands (east). In general, the existing and restorable wetland basins in this expanded region are smaller than within the core area. The planning team decided that these additional lands could be protected and/or restored through a mix of existing federal programs and/or private conservation efforts. New conservation efforts in this area would provide a “conservation buffer” around the proposed refuge (Alternative C). Focus would be placed on the retirement of highly erodible lands where possible and encouraging conservation practices. Any lands offered for sale would be considered for purchase within the Service’s Waterfowl Production Area program.

III. Explanation Of Alternatives

Alternative A: Core Restoration

Alternative A would focus on creating a contiguous 21,750 acre block of wetland and prairie habitat primarily on the former Tilden Farms property. Acquisition of land parcels interspersed with the Tilden tracts, from willing sellers only, would be pursued as funding and opportunity permits. Acquisition of active gravel mining lease areas would not be pursued until mining activities have terminated (same under all the alternatives) or if the existing leases came for sale, and funds were available, their purchase could be explored. Under this alternative, approximately 8,112 acres of hydric soils (wetland area) would have the potential for restoration.

11 X 17 MAP INSERTED HERE

BACK SIDE OF 11 X 17 MAP

Lands bordering the proposed refuge boundary would be eligible for participation in conservation easement programs, fee acquisition under the Waterfowl Production Area program or other private conservation measures.

Alternative B: No Action (Status Quo)

The Service would not seek to purchase land or easements for a refuge in the area. Land acquisition for waterfowl production areas could continue in the general vicinity. The Service would also continue to emphasize habitat restoration on private lands through the Partners for Fish and Wildlife Program.

Alternative C: Restoration Enhancement (Preferred Alternative)

This alternative would promote greater watershed restoration and protection with an enlarged (35,756 acre) refuge core area (Figure 2). Under this proposal approximately 12,765 acres of wetland basins would have the potential for restoration and protection.

The Refuge boundary would be expanded in three directions. On the westside, additional TNC and Minnesota Department of Natural Resource's lands that bordered the New TNC property would be included. The boundary would move south two miles to encompass three thousand additional TNC (Tilden) acres to enhance Pembina trail access and several large potential wetland restoration areas to the east of State Highway 32. The boundary to the east would include more State wildlife lands, additional TNC lands, and other private holdings on the headwaters of the Burnham creek drainage. Existing township roads were chosen for Refuge boundaries to provide easily recognizable edges to the greatest extent possible.

The land protection goal for Alternative C would be to acquire fee or permanent easements on most lands within the boundary over the course of 10 or more years. During the interim, a combination of easements, fee title or private conservation measures would be pursued based on each landowners' interest. The Service would not seek to acquire the State lands already managed for wildlife habitat.

Table 1: Summary of Issues and Opportunities Within Each Alternative

Issues/ Opportunities	Alternative A: Core Restoration	Alternative B: No Action	Alternative C: Restoration Enhancement
Local Land Use Issues			
<i>Restoration of habitat for migratory birds and resident wildlife.</i>	Up to 21,750 acres restored (8,100 acres of wetlands).	Up to 17,712 acres restored by TNC and government partnerships.	Up to 35,756 acres protected and restored (12,765 acres of wetlands)
<i>Wetland function, water quality, fish habitat.</i>	Restoration of numerous small basins and partial headwaters of Gentilly Creek. Flood control benefits and City of Crookston water wellhead protection.	Similar to Alt. A over a greater amount of time.	Restoration of headwater areas of Burnham, Gentilly, and Maple creeks. Large basin restorations to south and east.
<i>Biological diversity</i>	Wetland and prairie restorations would increase array of plants, birds, reptiles and invertebrates.	Similar to Alt. A.	Larger wetlands would provide more shallow water and emergent habitats.
Socioeconomic Issues			
<i>Taxes</i>	Would include FWS Revenue Sharing, TNC Endowment Fund and Minnesota school payments for public lands.	TNC Endowment Fund revenue.	Same as Alt. A.
<i>Adjacent land values</i>	None	None	Slight increase possible (value of hunting leases on adjacent land to south).
<i>Local economy</i>	Refuge visitors, staff salaries and construction contracts would replace reduced agriculture.	Dependent on local economic trends.	Same as Alt. A.
Local Land Use Issues			
<i>Additional land-owner options for conservation</i>	New restoration opportunities on lands within and adjacent to proposed boundary.	Existing private lands programs.	Same as Alt. A.
<i>Drainage and drainage ditches</i>	Service will work with landowners and drainage districts to avoid and resolve any conflicts. Existing private drainage will not be obstructed by the Service.	Change will depend on the extent of private wetland restorations.	Same as Alt. A.
<i>Landowner rights</i>	No change.	No change.	No change.
<i>Public Recreation</i>	New public opportunities including hunting, wildlife watching and education.	Subject to allowances of private landowners.	Same as Alt. A.

Proposed Glacial Ridge National Wildlife Refuge